

WHAT IS CLAIMED IS:

1. A method for controlling aging compensation in an OLED display having one or more light emitting elements comprising the steps of periodically measuring the change in display output to calculate a correction signal; restricting the change in the correction signal at each period; and applying the correction signal to the OLED display to effect a correction in the display output.

2. The method claimed in claim 1 wherein the measurement is one or more measurements from the group including a light output of one or more of the light emitting elements; a current used by one or more of the light emitting elements; a voltage across one or more of the light emitting elements; an accumulation over time of the use of current by one or more of the light emitting elements; an accumulation of the luminance values provided to one or more of the light emitting elements; an accumulation of the time that one or more of the light emitting elements is in use; a sampling of the data displayed on the display; and a temperature of the display.

3. The method claimed in claim 1 wherein the correction is restricted to be monotonically increasing .

4. The method claimed in claim 1 wherein the correction is restricted to a fixed percentage change in the correction value.

5. The method claimed in claim 1 wherein the correction is restricted to be monotonically increasing and to a fixed percentage change in the correction value.

6. The method claimed in claim 1 further comprising the step of storing a history of changes in the correction signal and using the history with the measured change to determine the restrictions.

7. The method claimed in claim 1 wherein the restrictions change over time.

8. The method claimed in claim 1 wherein the correction signal is one or more of the group including a voltage applied to the display; a voltage applied to each pixel; a charge applied to each pixel; and a data value applied to each pixel.

9. The method claimed in Claim 1 wherein the OLED display is a passive-matrix display.

10. The method claimed in Claim 1 wherein the OLED display is an active-matrix display.

11. The method claimed in Claim 1 wherein the corrections are applied to groups of light emitting elements.

12. The method claimed in Claim 1 wherein different corrections and/or restrictions are applied to groups of light emitting elements.

13. The method claimed in Claim 12 wherein the groups are colors of light emitting elements.

14. The method claimed in Claim 12 wherein the groups are spatially distinct groups of light emitting elements.

15. The method claimed in Claim 1 wherein different restrictions and/or corrections are applied to light emitting elements for different display brightness levels.

16. The method claimed in Claim 1 wherein the change in display output is measured at power-up of the display.

17. The method claimed in Claim 1 wherein the change in display output is measured at power-down of the display.

18. The method claimed in Claim 1 wherein the change in display output is measured periodically while the display is in use.

19. The method claimed in Claim 18 wherein the period of measuring the change in display output changes over time.

20. The method claimed in Claim 1 wherein the corrections maintain a constant average luminance output for the display over its lifetime.

21. The method claimed in Claim 1 wherein the corrections maintain a decreasing level of luminance over the lifetime of the display at a rate slower than that of an uncorrected display.

22. The method claimed in Claim 1 wherein the correction is applied with a lookup table.

23. The method claimed in Claim 1 wherein the correction is applied with an amplifier.

24. The method claimed in Claim 1 wherein the display output is the brightness of the display.